

Please carefully read and save these instructions before attempting to assemble, maintain, install, or operate this product. Observe all safety information to protect yourself and others. Failure to observe the instructions may result in property damage and/or personal injury. Please keep instructions for future reference.

## Important Operating Instructions



### 5HP 80 GALLON TWO STAGE COMPRESSOR

**Models: 51886, 51870**

#### CALIFORNIA PROPOSITION 65

**WARNING:** You can create dust when you cut, sand, drill or grind materials such as wood, paint, metal, concrete, cement, or other masonry. This dust often contains chemicals known to cause cancer, birth defects, or other reproductive harm. Wear protective gear.

**WARNING:** This product or its power cord may contain chemicals, including lead, known to the State of California to cause cancer and birth defects or other reproductive harm. Wash hands after handling.

#### CAUTION:

**FOR YOUR OWN SAFETY READ INSTRUCTION MANUAL COMPLETELY AND CAREFULLY BEFORE OPERATING THIS COMPRESSOR.**

Failure to follow all instructions as listed below may result in electrical shock, fire, and/or serious personal injury.

#### BREATHABLE AIR WARNING:

This compressor/pump is not equipped and should not be used "as is" to supply breathing quality air. For any application of air for human consumption, the air compressor/pump will need to be fitted with suitable in-line safety and alarm equipment. This additional equipment is necessary to properly filter and purify the air to meet minimal specifications for Grade D breathing as described in Compressed Gas Association Commodity Specification G 7.1 - 1966, OSHA 29 CFR 1910. 134, and/or Canadian Standards Associations (CSA).

#### SPECIFICATIONS:

Tank Size: 80 gallons  
PUMP RPMs: 1050  
CFM: 13.1 @ 40PSI; 12.0 @ 90 PSI  
Max Pressure: 150 PSI  
Thermal overload protection

#### SAFETY WARNINGS

Disconnect power and release all pressure from the system before attempting to install, relocate, service or perform any maintenance on this compressor.

Never store flammable liquids or gases near the compressor. Electric arcs can be produced by the electric motor and pressure switch.

Do not operate the compressor without the belt guard in place. Moving parts can cause serious injuries.

1) Follow all electrical and safety codes along with National Electrical Codes (NEC) and Occupational Safety and Health Act (OSHA).

2) Electric motors and starters must be securely and properly grounded.

For warranty purchases, please keep your dated proof of purchase. File or attach to the manual for safekeeping.

3) Do not allow the cable to come into contact with oil, grease, chemicals or sharp objects. Do not allow kinks to form in the cable.

4) Do not exceed the pressure limits for any component in or connected to the system.

5) Inspect the compressor to make sure that all the fittings, bolts, etc., are tight and secure before starting the compressor.

6) Do not touch the compressor or motor while it is in operation. These parts become HOT during normal operation. Allow the unit to cool completely before performing maintenance or repairs.

7) Do not increase the settings on control components. These settings provide safety against over pressurization. The pressure switch settings are preset at the factory for normal operating conditions and increasing the settings will result in compressor and motor damage.

8) Regularly inspect the hoses, plugs, fittings, piping, wires, etc., for signs of damage, weakness or leakage before starting and using the compressor.

9) Fast moving air can stir up dust and debris, which may be harmful. Release the air slowly when draining moisture

or depressurizing the unit.

10) Tanks rust and weaken with moisture. Ensure the tank is drained daily to avoid rust formation.

11) Inspect the air tank for rust, pin holes, cracks (especially in rear welds), bulges and other changes in the tank.

12) Never weld or drill holes in the air tank.

13) Keep others at a safe distance from the work area.

## **SPRAYING PRECAUTIONS**

1) Always wear a respirator and safety glasses when spraying.

2) Always spray in an open, well-ventilated area to prevent fumes from accumulating and causing fire and health hazards. Fumes are dangerous.

3) Do not spray materials near open flames and electrical equipment.

4) Do not smoke while spraying insecticides, paint or other flammable substances.

5) Do not direct paint or other sprayed material at the compressor. Make sure the compressor is as far away from the spraying area as possible to minimize overspray accumulation on the compressor.

6) When spraying solvents or chemicals, follow the instructions that are provided by the manufacturer.

7) Never use air pressurized accessories or parts in the air system that are not suitable for 175 PSI.

When high humidity is present or when a compressor is used for an extended period of time, moisture will collect in the tank. This condensation can cause water droplets to appear in paint that is sprayed. To eliminate this moisture, drain the tank often to reduce the buildup. A filter in the air line can help eliminate this moisture when it is located as near to the gun as possible.

## **INSTALLATION**

### **Location**

It is extremely important to install the compressor in a clean, well-ventilated area. Make sure the temperature will not exceed 100 degrees Fahrenheit. A minimum clearance of 12 to 18 inches between the compressor fly wheel or fan and walls is required because objects could obstruct the air flow.

**Do not locate the compressor air inlet near steam, paint spray, sandblast areas or any other source of contamination.**



## Tank Mounting

The tank should be bolted on a concrete floor or on a separate concrete foundation. Vibration isolators can be used between the tank leg and the floor. When using isolator pads, do not draw bolts tight. Allow the pads to absorb vibrations. When isolators are used, a flexible coupling should be installed between the tank and service piping.

Vertical tanks have three feet and do not need shimming as long as the floor or foundation is level.

**Never use wood shipping skids for mounting the compressor!**

### Installing A Shut Off Valve

A shut off valve should be installed on the discharge port of the tank to control the air flow out of the tank. The valve should be located between the tank and the piping system.

**Do not install a shut off valve between the compressor pump and the tank. Personal injury and/or equipment damage could occur.**

### Piping

If a pipe line is used, the line must be at least 3/4 inch NPT. Smaller piping restricts the air flow. Use 1 inch NPT pipe if the pipe line is over 100 feet

long in order to prevent excessive pressure drops.

Bury underground lines below the frost line and avoid pockets where condensation can gather and freeze.

Apply air pressure to the piping installation and make sure all joints are free from leaks before underground lines are covered.

Before using the compressor, find and repair all leaks in the piping, connections and fittings.

## ELECTRICAL INSTALLATION

**All wiring and electrical connections should be performed by a qualified electrician. Installation must be in accordance with local and national electrical codes.**

### Grounding

This unit must be grounded. Grounding the compressor reduces the risk of electrical shock by providing an escape wire for the electric current if a short circuit occurs. This product must be equipped with a power cord or cable that provides a grounding wire.

**Improperly grounded motors and starters are shock hazards. Ensure all equipment is properly grounded.**


### Wiring

Have an electrician connect the

unit to an appropriate line disconnect service and make sure that the electric disconnect and fuse box are large enough and located within sight distance of the compressor, the service is of adequate ampere rating, the supply line has the same electrical characteristics (phase, cycles, voltage) as the motor, and the line wire is the proper size and no other equipment is operated from the same line.

## ASSEMBLY INSTRUCTIONS

Do not operate the compressor without lubricant or with low lubricant levels. It could cause damage to the compressor.

1) Check the oil level. Add additional oil if needed. If using for the first time, pour supplied  into oil tank until the oil reaches the red dot on the oil level sight glass. Do not over fill.

2) Install oil fill plug before starting.

3) Close the tank valve on the bottom of the air tank by turning the valve clockwise.

4) A shut off valve (ideally 3/4" ) should be installed on the discharge port of the tank. Use Teflon tape on the threads to ensure an airtight connection between the tank and the plumbing or hose coupler. Do not over tighten the fittings.

5) Attach the supplied air filter to

the air intake port on the pump head.

6) Attach the air hose and any desired accessories (not included). Use Teflon tape on the threads to ensure an airtight connection. Do not over tighten the fittings. Note: Vibration Isolator pads are recommended prior to bolting to the floor. Only mount the compressor to a concrete floor or concrete pad.

## OPERATING INSTRUCTIONS

### Start Up

- 1) Turn the ON/OFF switch to the off position.
- 2) Check the air compressor visually for any damage or obstruction.
- 3) Close the drain valve.
- 4) Plug the power cord into the proper receptacle.
- 5) Turn the ON/OFF switch to the ON position and the compressor should start and build air pressure in the tank to cut-out pressure and then shut off automatically.
- 6) Adjust the regulator to a PSI setting that is recommended for the application at hand. Do not use a pressure switch in place of a regulator.
- 7) The air compressor is ready for use

**Once started, the compressor will start and stop automatically until the power is disconnected.**

### ASME Safety Valve

**DO NOT REMOVE OR TAMPER WITH THIS VALVE.** This valve automatically releases air if the tank pressure exceeds the preset maximum for this unit (150 PSI). This valve should be checked occasionally by pulling the ring by hand. If air leaks after the ring has been released, or the valve cannot be actuated by the ring and is stuck, the valve **MUST** be replaced.

### Shut Down

- 1) Turn the ON/OFF switch to the OFF position.
- 2) Unplug the power cord from the receptacle.
- 3) Set the outlet pressure to zero on the regulator.
- 4) Remove any air tools or accessories.
- 5) Open the drain valve allowing air to bleed from the tank. After all of the air has bled from the tank, close the drain valve to prevent debris buildup in the valve.

Water that remains in the tank during storage will corrode and weaken the air tank which could cause the tank to rupture. To avoid serious injury, ensure the

tank is drained properly after each use or daily.

Check the tank safety valve and air filter before each use.

## MAINTENANCE

Before starting maintenance, ensure the air compressor is turned off, disconnected from the power source, the tank is drained and the compressor is cooled down completely.

**Never repair a cracked tank or personal injury could occur.**

### Daily:

- Check oil level
- Drain accumulated liquid from tank
- Check for oil leaks
- Check for unusual noise and/or vibrations
- Check all fasteners are secure

### Weekly:

- Check safety relief valve. **DO NOT DISASSEMBLE THE VALVE WITH AIR IN TANK.**
- Inspect and clean air filter
- Clean breather holes on oil check dipstick

### Monthly:

- Check for air leaks by applying a solution of soapy water around joints. Look for air bubbles around joints when the compressor reaches the pressure cut-out limit and pump turns off.
- Check all nuts and bolts are tight



**Six months or 250 operating hours:**

- Change compressor oil (SAE 20 or 30)

Replace oil more frequently when used in dusty operating environments.

### **CHANGING THE OIL**

- 1) Place oil drain pan below the oil drain plug.
- 2) Remove dipstick to allow the air to enter the crankcase.
- 3) Remove oil drain plug.
- 4) Allow oil to drain completely.
- 5) Clean and replace oil drain plug.
- 6) Refill crankcase with SAE 20 or SAE 30 weight non-detergent oil to the red dot on the oil level sight glass. Be careful not to overfill the tank.

Do not use multi-grade, ATF, hydraulic fluid, two-cycle oil or any other improper oils because it will void the warranty. Using automotive engine oils may cause carbon deposits on valves and can shorten valve life.

### **Changing Filter**

Never run the compressor without an intake air filter or with a clogged intake air filter. Use compressed air to blow the filter clean. If the filter

cannot be blown clean, the filter should be replaced.

**Do not allow intercooler fins to become clogged with dirt, lint, dust, paint, etc. If surrounding air is dirty and is causing the intercooler to clog, move the compressor to a cleaner area or use duct work to bring clean air into the cooling fan intake.**

## Troubleshooting Guide

Symptom	Possible Cause(s)	Possible Solutions
No start condition	Fuse blown or circuit breaker tripped	Check for cause of blown fuse/breaker and replace
	Loose electrical connections	Check wiring connections
	Overheated motor	Turn compressor off, wait until total cool down before restarting
Low pressure	Air leak in safety valve	Check valve manually by pulling upwards on ring. If condition persists, replace valve
	Defective check valve	Replace check valve
Safety valve releasing	Defective pressure switch or improper adjustment	Check for proper adjustment and if problem persists, replace pressure switch
Tank pressure drops when compressor is shut off	Loose drain valve	Tighten drain valve
	Loose connections at regulator or pressure switch	Check connections for leaks, seal with teflon tape
Excessive moisture coming out of air hose	Excessive water in tank	Drain tank through drain valve
	Humidity too high	Move compressor to an area of less humidity.
Oil discharge in air	Improper oil viscosity	Replace oil with SAE 20-30 weight non-detergent oil
	Too much oil in crankcase	Drain crankcase and fill to proper level
	Compressor overheated	Air pressure regulated too high
	Restricted air filter	Clean or replace filter
	Worn piston rings	Replace piston rings

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## **Limited Manufacturer Warranty**

*North American Tool (NAT) Industries makes every effort to ensure that this product meets high quality and durability standards. NAT warrants to the original retail consumer a 1-year limited warranty from the date the product was purchased at retail and each product is free from defects in materials. Warranty does not apply to defects due directly or indirectly to misuse, abuse, negligence or accidents, repairs or alterations, or a lack of maintenance. NAT shall in no event be liable for death, injuries to persons or property, or for incidental, special or consequential damages arising from the use of our products. To receive service under warranty, the original manufacturer part must be returned for examination by an authorized service center. Shipping and handling charges may apply. If a defect is found, NAT will either repair or replace the product at its discretion.*

## **DO NOT RETURN TO STORE**

For Customer Service:

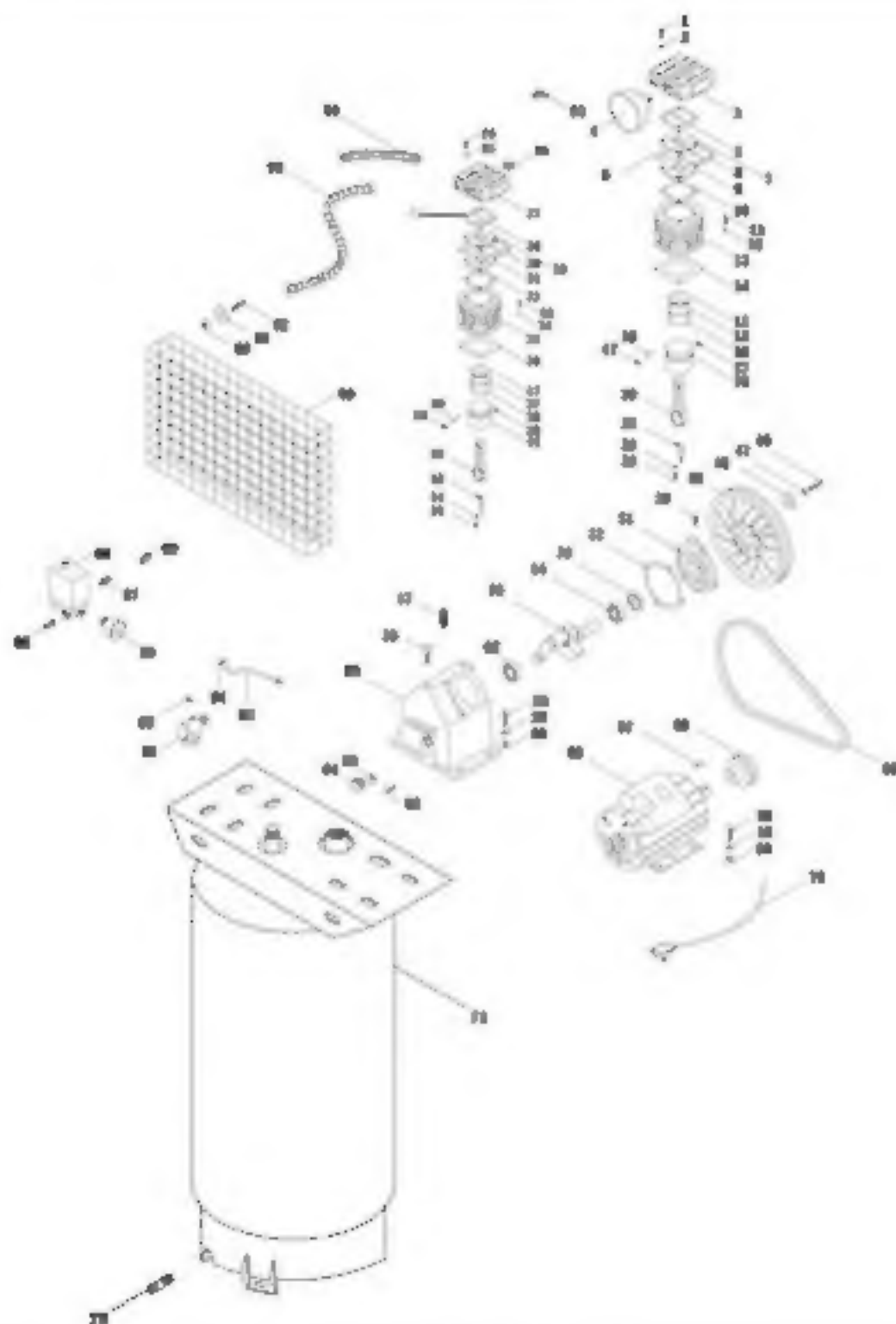
Email: [feedback@natitools.com](mailto:feedback@natitools.com) or Call 1-800-348-5004



## 5HP 80 GALLON TWO STAGE COMPRESSOR

Models: 51866, 51870

### Parts List





## Call 1-800-348-5004 for assistance or replacement parts

Please provide the following information:

- Model number
- Part description and number as shown in parts list
- Serial number (if any)

Address any correspondence to:

North American Tool Industries  
84 Commercial Rd  
Huntington, IN 46750

No.	Description	Qty
1	Bolt	4
2	Spring Washer	4
3	Cylinder Head	1
4	Rear Cover Air Filter	1
5	Cylinder Head Gasket	1
6	Valve Plate	2
7	Valve Seat	1
8	Cylinder Head Gasket	1
9	Valve Seat	1
10	Cylinder Gasket	1
11	Bolt	4
12	Spring Washer	4
13	Cylinder	1
14	Cylinder Gasket	1
15	Piston Ring Set	2
16	Oil Ring	1
17	Spring Washer	2
18	Piston Pin	1
19	Piston	1
20	Connecting Rod	1
21	Splasher	1
22	Spring Washer	1
23	Cross Recess Head Screw	1
24	Bolt	4
25	Spring Washer	4
26	Exhaust Elbow	1
27	Cylinder Head	1
28	Cylinder Head Gasket	1
29	Valve Seat	1
30	Cylinder Head Gasket	1
31	Valve Seat	1
32	Cylinder Head Gasket	1

No.	Description	Qty
33	Bolt	4
34	Spring Washer	4
35	Cylinder	1
36	Cylinder Gasket	1
37	Piston Ring Set	2
38	Oil Ring	1
39	Spring Washer	2
40	Piston Pin	1
41	Piston	1
42	Connecting Rod	1
43	Splasher	1
44	Spring Washer	1
45	Cross Recess Head Screw	1
46	Bolt	1
47	Spring Washer	1
48	Pulley Washer	1
49	Pulley	1
50	Bolt	4
51	Bearing Seat	1
52	Gasket Bearing Seat	1
53	Oil Seal	1
54	Bearing	1
55	Crankshaft	1
56	Oil Filling Plug	1
57	Oil Breather	1
58	Motor Bolt	4
59	Washer	4
60	Six Angle Nut	1
61	Crankcase	1
62	Bearing	1
63	Oil Leveler Washer	1
64	Oil Leveler	1

No.	Description	Qty
65	Oil Drain Plug	1
66	Motor	1
67	Woodruff Key	1
68	Motor Pulley	1
69	V-Belt	2
70	Electric Cable	1
72	Valve Plate	2
74	Air Tank	1
79	Drain Valve	1
81	Check Valve	1
82	Unload Elbow	1
83	Unload Pipe	1
84	Unload Nut	1
85	Pressure Gauge	1
86	Safety Valve	1
87	Nipple	1
88	Pressure Switch	1
89	Quick Connector	1
90	Belt Guard	1
91	Spring Washer	1
92	Bolt	1
93	Exhaust Pipe Assembly	1